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        OCT 03
                MATHDI removed from STN
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        OCT 04
                CA/CAplus-Canadian Intellectual Property Office (CIPO) added
                 to core patent offices
        OCT 13
                New CAS Information Use Policies Effective October 17, 2005
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        OCT 17
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                CA/CAplus - Expanded coverage of German academic research
NEWS 12
        NOV 30
                REGISTRY/ZREGISTRY on STN(R) enhanced with experimental
                 spectral property data
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                CASREACT(R) - Over 10 million reactions available
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        DEC 14 2006 MeSH terms loaded in MEDLINE/LMEDLINE
NEWS 15
        DEC 14 2006 MeSH terms loaded for MEDLINE file segment of TOXCENTER
NEWS 16
        DEC 14 CA/CAplus to be enhanced with updated IPC codes
NEWS 17
        DEC 16 MARPATprev will be removed from STN on December 31, 2005
NEWS 18
        DEC 21 IPC search and display fields enhanced in CA/CAplus with the
                IPC reform
        DEC 23 New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/USPAT2
NEWS 19
             DECEMBER 02 CURRENT VERSION FOR WINDOWS IS V8.01,
NEWS EXPRESS
              CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0jc(jp),
              AND CURRENT DISCOVER FILE IS DATED 02 DECEMBER 2005.
              V8.0 USERS CAN OBTAIN THE UPGRADE TO V8.01 AT
              http://download.cas.org/express/v8.0-Discover/
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=> file reg
COST IN U.S. DOLLARS

SINCE FILE TOTAL
ENTRY SESSION
0.21 0.21

FULL ESTIMATED COST

FILE 'REGISTRY' ENTERED AT 12:28:44 ON 27 DEC 2005
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STRUCTURE FILE UPDATES: 26 DEC 2005 HIGHEST RN 870675-00-6 DICTIONARY FILE UPDATES: 26 DEC 2005 HIGHEST RN 870675-00-6

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TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

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REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

Uploading C:\Program Files\Stnexp\Queries\10716430\form 1 B.str

12/27/2005

chain nodes :

1 2 3 4 5 6 7

chain bonds :

1-7 2-5 2-3 2-7 3-4 3-6

exact/norm bonds :

2-5 3-4 3-6

exact bonds : 1-7 2-3 2-7

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS

L1 STRUCTURE UPLOADED

=> d

L1 HAS NO ANSWERS

L1STR

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 12:29:15 FILE 'REGISTRY' SAMPLE SCREEN SEARCH COMPLETED - 4604 TO ITERATE

43.4% PROCESSED

2000 ITERATIONS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS:

88012 TO 96148

PROJECTED ANSWERS:

622 TO 1494

23 SEA SSS SAM L1

=> s 11 full

FULL SEARCH INITIATED 12:29:19 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED - 91215 TO ITERATE

100.0% PROCESSED 91215 ITERATIONS

1245 ANSWERS

Page 3

23 ANSWERS

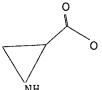
SEARCH TIME: 00.00.01

1245 SEA SSS FUL L1 L3

12/27/2005

=>

Uploading C:\Program Files\Stnexp\Queries\10716430\form 2 B.str



3 1 6

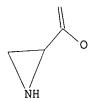
chain nodes :
4 5 6
ring nodes :
1 2 3
chain bonds :
1-4 4-5 4-6
ring bonds :
1-2 1-3 2-3
exact/norm bonds :
1-2 1-3 2-3 4-5 4-6
exact bonds :
1-4

Match level :

1:Atom 2:Atom 3:Atom 4:CLASS 5:CLASS 6:CLASS

L4 STRUCTURE UPLOADED

=> d L4 HAS NO ANSWERS L4 STR



Structure attributes must be viewed using STN Express query preparation.

=> s 14

SAMPLE SEARCH INITIATED 12:29:41 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 11259 TO ITERATE

17.8% PROCESSED 2000 ITERATIONS INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED) SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**

PROJECTED ITERATIONS: 218822 TO 231538 PROJECTED ANSWERS: 166 TO 734

4 ANSWERS

L5 4 SEA SSS SAM L4

=> s 14 full FULL SEARCH INITIATED 12:29:45 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED - 222523 TO ITERATE

100.0% PROCESSED 222523 ITERATIONS 658 ANSWERS

SEARCH TIME: 00.00.01

L6 658 SEA SSS FUL L4

=> file hcaplus

COST IN U.S. DOLLARS SINCE FILE TOTAL ENTRY SESSION

FULL ESTIMATED COST 322.66 322.87

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 13

L7 2444 L3

=> s 16

L8 364 L6

=> s 13 and 16

2444 L3

364 L6

L9 24 L3 AND L6

=> s base

650906 BASE

148857 BASES

L10 741738 BASE

(BASE OR BASES)

=> s 19 and 110

L11 2 L9 AND L10

=> d ibib abs 1-2

L11 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:167574 HCAPLUS
DOCUMENT NUMBER: 124:232231
TITLE: 124:232231
A21:1dline compounds, methods of preparation, and reactions thereof, as intermediates for thiamphenicol and analogs
INVENTOR(S): Davis, Franklin A.; Zhou, Ping; Reddy, Gaddampally Venkat
PATENT ASSIGNEE(S): Drexel University, USA
PCT Int. Appl., 62 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: PALLY ACC. NUM. COUNT: 1

LANGUAGE: FAMILY ACC. NUM PATENT INFORMAT

| TENT INFORMATION: | |
|-----------------------------|---|
| PATENT NO. KIND DATE | APPLICATION NO. DATE |
| WO 9530672 A1 1995 | 1116 WO 1995-US4911 19950501 |
| W: AM, AT, AU, BB, BG, BR, | BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, |
| GB, GE, HU, IS, JP, KE, | KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, |
| MG, MN, MW, MX, NO, NZ, | PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, |
| TT, UA | |
| RW: KE, MW, SD, SZ, UG, AT, | BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, |
| LU, MC, NL, PT, SE, BF, | BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, |
| SN, TD, TG | |
| US 5789599 A 1998 | 0804 US 1994-239097 19940506 |
| AU 9524260 A1 1995 | 1129 AU 1995-24260 19950501 |

AU 9524260 PRIORITY APPLN. INFO.: 19950501 A 19940506 WO 1995-US4911 w 19950501

OTHER SOURCE(S): CASREACT 124:232231; MARPAT 124:232231

CH2OH II

Novel N-sulfinyl-2-carboxy- and N-hydrogen-2-(hydroxymethyl)aziridine compds. I and II and their stereoisomers are provided (wherein R1-R5 = H, hydrocarbyl radicals containing 1-40 C atoms, 0-40 halo atoms, and 0-10 heteroatoms (B, N, O, S, P, Si, Se); both R3 and R4 * H; sulfinyl moiety may be racemic or optically enriched]. The asymm synthesis of N-sulfinylaziridines is readily accomplished in high diastereomeric

L11 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN ACCESSION NUMBER: 1994:580151 HCAPLUS DOCUMENT NUMBER: 121:180151 TITLE: The synthesis and stability of an The synthesis and stability of aziridino-glutamate,

irreversible inhibitor of glutamate racemase Tanner, Martin E.; Miao, Shichang Dep. Chem., Univ. British Columbia, Vancouver, BC, AUTHOR(S): CORPORATE SOURCE: V6T

Tetrahedron Letters (1994), 35(24), 4073-6 CODEN: TELEAY; ISSN: 0040-4039 Journal SOURCE .

DOCUMENT TYPE:

OTHER SOURCE(S): CASREACT 121:180151

со2н HO₂C H2N

Aziridino-glutamate (\pm)-I was synthesized by heating α -fluoromethylglutamate II in base. In neutral solution, (\pm)-I was shown to cyclize to the γ -lactone III with a half life of 4 min. Aziridino-glutamate was shown to irreversibly inactive glutamate racemase by alkylating an active site cysteine residue. Electrospray mass spectrometry was used to establish that a covalent bond had formed and that this bond protects one of the enzyme's two cysteine residues from reacting with iodoacetate under denaturing conditions.

Lll ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN (Continued) and good yield by a Darzens-type reaction of a metal enclate of an a-halo eater with an enantiopure sulfinimine. Ring-opening of the aziridines affords a-amino acids and otherwise difficult to prep. syn-B-hydroxy-a-amino acids, both key structural units found in many bioactive materials. The N-sulfinyl radical may be selectively removed from the novel aziridine compds. by treatment with acid or base. Alternatively, the N-sulfinyl radical may be oxidized to provide the corresponding N-sulfonyl-aziridine, or reduced to form the corresponding lH-2-(hydroxymethyl)aziridine, either of which may subsequently be ring-opened to provide precursors to bioactive compds. For example, BrCH2CO2Me was lithiated with (Me3Si)2NLi in THF, and reacted

ted with $(S)-\{+\}-N-benzylidene-p-toluenesulfonimine to give 65% <math>\{2S,3S\}-I$ [R1 = Me, R2 = R4 = H, R3 = Ph, R5 = p-MeC6614] $\{III\}$, $plus 6% \{2S,3R\}-isomer$ byproduct. The analog of III with R3 = p-(MeS)C614 was similarly prepd., then reduced to the corresponding hydroxymethyl compd. II, hydrolyzed to an aminopropanediol, N-dichloroacetylated, and oxidized with m-ClC6H4C(O)OOH, to give the antiblotic thismphenicol.

=> s amine

261513 AMINE

245844 AMINES

L12

399888 AMINE

(AMINE OR AMINES)

=> s 19 and 112

L13

3 L9 AND L12

=> d ibib abs 1-3

L13 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2005 ACS ON STN ACCESSION NUMBER: 2001:617977 HCAPLUS DOCUMENT NUMBER: 135:195976
TITLE: Processes 4-

derivatives
Sugawara, Masanobu; Fujii, Akio; Okuro, Kazumi; Saka, Yasuhiro; Nagashima, Nobuo; Inoue, Kenji; Takeda, Yasuhiro; Nagashima, Nobuo; Inoue, Kenji; Takeda, Toshihiro; Kinoshitat, Koichi; Moroshima, Tadashi; Fuse, Yoshihide; Ueda, Yasuyoshi
Kaneka Corporation, Japan; et al.
PCT Int. Appl., 74 pp.
CODEN: PIXXD2
Patent
Japanese
1 INVENTOR (S):

PATENT ASSIGNEE(S):

DOCUMENT TYPE:

LANGUAGE: FAMILY ACC. NUM. COUNT: PATENT INFORMATION: PATENT NO. DATE APPLICATION NO. KIND

US 2003-716430 JP 2000-39415 PRIORITY APPLN. INFO.:

> JP 2000-334391 WO 2001-JP1132 W 20010216

US 2002-926346

DATE

OTHER SOURCE(S):

CASREACT 135:195786; MARPAT 135:195786

AB An optically active amino acid derivative is prepared either by subjecting an optically active 3-haloalanine derivative XCH2C*H(NH2)CO2R1 [X is

halogen; halogen: R1
is hydrogen or the like; the asterisk represents an asym. carbon atom] to
N-protection followed by cyclization or cyclization followed by
N-protection to prepare an optically active aziridinecarboxylic acid
derivative
whose imino group is protected with 2-nitrobenzenesulfonyl or

L13 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2005 ACS ON STN ACCESSION NUMBER: 1980:639100 HCAPLUS
DOCUMENT NUMBER: 93:239100

93:239100 Preparation of fluoro amines by the reaction of aziridines with hydrogen fluoride in pyridine

AUTHOR (S) :

of aziridines with hydrogen fluoride in pyridine solution Wade, Tamsir N. Lab. Chim. Struct. Org., Univ. Nice, Nice, 06034, Fr. Journal of Organic Chemistry (1980), 45(26), 5328-33 CODEN: JOCEAH: ISSN: 0022-3263 Journal CORPORATE SOURCE:

DOCUMENT TYPE:

OTHER SOURCE(S): CASREACT 93:239100

N SOURCE(S):

HF Combines regiospecifically with aziridines to give 2-fluoro amines in good yields. F attack is in all cases completely directed to the most substituted ring carbon or to the benzylic carbon. The results are consistent with an SNI-type mechanism which involves isomerization of the pos. charged intermediate.

L13 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN (Continued)
4-nitrobenzenesulfonyl and treating this deriv. with an organometallic
reagent or by subjecting an optically active 3-haloalanine deriv. to
N-protection to obtain an optically active 3-haloalanine deriv.
XCH2C*H(NHP1)CO2R2 {X, asterisk = as given above; R2 is hydrogen or the
like; P1 is 2-nitrobenzenesulfonyl or 4-nitrobenzenesulfonyl whose aming
group is protected with 2-nitrobenzenesulfonyl or 4-nitrobenzenesulfonyl
and treating this deriv. with an organometallic reagent. According to
such processes, natural and nonnatural optically active amino acids can

prepd. from inexpensive raw materials through simple and easy operation.

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR

FORMAT

RECORD. ALL CITATIONS AVAILABLE IN THE RE

L13 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2005 ACS ON STN ACCESSION NUMBER: 1960:118138 HCAPLUS ORIGINAL REFERENCE NO: 54:22552d-1,22553a-1,22554a TITLE: Formation, ring cleavage, and

54:2252d-i,22553a-i,22554a Formation, ring cleavage, and isomerization of ethylenimine-2-carboxylic acid derivatives Gunderman, Karl Dietrich; Holtzmann, Gerhard; Rose, Hans Joachim; Schulze, Helmut Univ. Munster, Germany Chemische Berichte (1960), 93, 1632-43 CODEN: CHBEAM; ISSN: 0009-2940 AUTHOR (S):

CORPORATE SOURCE:

SOURCE:

DOCUMENT TYPE:

Unavailable

OTHER SOURCE(S):

UNAVALIABLE

8. SOUNCE(S): CASREACT 54:118138

The kinetic investigation of HCl elimination from H2NCH2CHClCO2H (I) and CICH2CH(NH2)CO2H (II) in the presence of NaOH showed that 2-carboxyethylenimide (III) was formed in both cases. The hydrolysis of

and II at pH 6 yielded in both cases mixts. of DL-serine (IV) and isoserine (V) of identical composition The tendency for the formation of β-substituted-α-amino acids from III increased with increasing nucleophilicity of the cleaving reagent. 1-Benzyl-2-cyanocthylenimine Va rearranged thermally to α-(N-benzylimino)propionitrile (VI) and PhCH:NCH(CN)Me (VII). CH2:CCICOZMe (76 g.), 88 g. phthalimide, and 200 cc. C6H6 treated with 2.4 g. Na in 176 cc. absolute MeOH, the mixture heated 0.5

ed 0.5 h., cooled, filtered after a few hrs., the residue washed with a little MeOH, the combined filtrates evaporated in vacuo, the residue dissolved

CHC13, washed with 0.2N NaOH and H2O, evaporated, and the combined

htes recrystd. from MeOH yielded 120-3 g. Me -chloro-β-phthalimidopropionate (VIII), m. 125°. VIII and the 10-fold amount of 20% HCl refluxed 5 h., cooled, filtered, evaporated in vacuo, the dissolved in H2O, treated with C. evaporated, dissolved in iso-PrOH, the

dissolved in H2O, treated mach o, ..., and diluted with dry Et2O concentrated to beginning crystallization, and diluted with dry Et2O gave 804 I.HCl. Et ester (5 g.) of I.HCl, 10 g. N(CH2CH2OH)3, and 50 cc. absolute Et0H heated 5 ... 60-70° with stirring, filtered, and distilled in vacua into a ed 5 h. at $60-70^{\circ}$ with stirring, filtered, and distilled in vacuo into a cooled (-80°) receiver gave about 50° Et ester (IX) of III as an alc. solution; the solution treated with 100 cc. MeOH (saturated at 0°

NH3), kept overnight, and evaporated yielded 44-8% amide of III, m.

124° (EtOAc-petr. ether). Alc. IX treated with 1 mol equivalent N LiOH, refrigerated 24 h., evaporated in vacuo, the residue evaporated with dry
CGH6, dissolved in 50 cc. warm absolute EtOH, the solution cooled, and

ed with 2 vols. dry Et2O gave 0.8-1.0 g. powdery Li salt of III, m. 260-70° (decomposition), which refluxed in EtOH yielded partially polymeric

materials, Rf 0.73 (65:35 C6H5N-H2O). Li salt of III in the min. amount of H2O treated with the calculated amount of aqueous AgNO3 and diluted with EtOH gave

MAIN the taleurette described the Ag salt of III, pale yellow, which turned gradually brown, even in the dark. Li

- L13 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN (Continued) (0.9 g.) of III in 20 cc. H2O treated dropwise at room temp. with
- stirring
 with 50 cc. 201 H2SO4, the mixt. kept overnight, refluxed 1 h., treated
 with BaCl2, filtered, and purified with Lewatit S-100 gave 0.8 g. crude
 - contg. less than 8% V. A series of similar hydrolyzes was performed with I (pH, temp., % yield of IV + V, % content of IV in product given): 6, 100°, about 80, 83; 6, 60°, about 80, 86-8; 5, 100°, about 80, 80; 2, 100, about 80°, 53. II gave similarly at pH 6 and 100° 75% mixt. of IV and V contg. 83% IV. Li salt (1.1 g.) of III in 20 cc. H20 added dropwise with stirring and cooling to 4 g. ACSH in 40 cc. H20, the mixt. refluxed 0.5 h., treated with excess 20% HCl, refluxed 8 h., evapd. in vacuo, and the residue treated in 11q. NH3 with Na and PhCH2Cl gave 0.75 g. S-benzyl-DL-isocysteine (X), m. 190-5°. Alc. IX (from 5 g. I.HCl) treated with 2 g. ACSH in 30 cc. abs. EtOH gave X.
- PRCH2C1 gave 0.75 g. S-benzyl-DL-isocysteine (X), m. 190-5°. Alc. IX (from 5 g. I.HC1) treated with 2 g. AcSH in 30 cc. abs. Etch gave X. portion of the crude residue (after evapn. of the HC1) from a similar run treated with Raney Ni gave B-alanine (XI) contg. very little galanine; another portion (0.63 g.) of the residue treated with Na and PhcHZC1 in 1ig. NH3 gave about 0.20 g. X contg. traces of S-benzyl-DL-cysteine. I.HC1 (1.6 g.) in 200 cc. H20 neutralized with N NaOH, heated to reflux, adjusted with N NaOH op H7-7-5, concd. to 50 cc., added dropwise with stirring at 20° to 150 cc. NHC1, kept 15 h. at room temp. evapd. in vacuo, the residue extd. with abs. EtcH, and the ext. evapd. gave 83% mixt. of I and II contg. 31% I; a similar run at -4° yielded 80% mixt. contg. 38% I. I.HCl converted similarly to III and then cleaved at 20° with N HBz yielded 70% mixt. of HNCH2CHBrCO2H and BrCH2CH(NN2)CO2H (XII) contg. 51-4% XII. A run with N HCl at -4° yielded 90% mixt. of I and II contg. 39 II. IX treated at -4° with HCl in Me2Co-Et20 gave 75% mixt. of I and II, contg. 58% I. Na salt of III treated with N HCl, the mixt. neutralized with NHGN, and the product fractionally crystd. from ag. EtcH gave 10% II, decompd. at 142° Et ester of I.HCl (5 g.) in 50 cc. Et20 treated with x10 II contg. 51-4% XII. A run with PCCO3 to a crystal slush, the ag. phase etcd. with Et20, the combined Et20 solns. dried several hrs. at -4° and then evapd., the crude residual Et ester of I (2.8-3.0 g.) dissolved immediately in abs. EtcH, dild. to 100 cc., and aliquots titrated for chloride ion gave the crude residual Et ester of I (2.8-3.0 g.) dissolved immediately in abs. EtcH, dild. to 100 cc., and aliquots titrated for chloride ion gave the crude residual Et ester of I (2.8-3.0 g.) dissolved immediately in abs. EtcH, dild. to 100 cc., and aliquots titrated for chloride ion gave the crude residual et ester. All 11 and 12 contg. 11 contg. 12 contg. 12 contg. 12
- L13 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN (Continued)
 XI (N-phthalyl deriv. m. 160°); the alc. ext. concd. gave a small
 amt. of XI; the mother liquors evapd. and the residue dissolved in EtOH
 and dild. with dry Et2O yielded about 10 g. N-PhCH2 deriv. of IV. A
- mixt.

 (5 g.) of Va, VII, and XIIIa heated to 100° and then hydrolyzed with 320 cc. N HCl yielded 2.0 g. BzH (semicarbazone m. 220°) and 1.42 g. XI. Va-VII-XIIIa mixt. (9.4 g.) in 110 cc. 208 HCl kept several hrs. at room temp., washed with Et20, evapd., and the residue treated
- with

 H2O left 2-3 g. PhCH2NH2.HCl, m. 255* (3,5-dinitrobenzoate m.
 210*); the filtrate furnished up to 20% XI. Va-VII-XIIIa mixt.
 (2.0 g.) in 10 cc. dry Me2CO treated with cooling with 16 cc. about 2N
 HCI-ELZO, the mixt. refrigerated overnight, dild. with 100 cc. dry Et2O,
 and filtered after several hrs. gave 2.5-2.7 g. ClCH2CH(CN)NHCH2Ph.HCl
- and filtered after several hrs. gave 2.5-2.7 g. ClCH2CH(CN)NHCH2Ph.HCl and fits position isomer), m. 140° (decompn.) (abs. EtOH-Et2O), which heated with KI and alc. HCl in HCONNe2 liberated iodine. Va-VII-XIIIa mixt. (5.6 g.) and 3.0 g. KOH in 30 cc. EtOH heated 2 h. at 50-60°, the mixt. concd. in vaeue to about 15 cc., dild. with 30 cc. H2O. the aq phase extd. with Et2O, and the combined org. layer and extd. worked up gave 3.55 g. N-benzylethylenimide-2-carboxamide, m. 112° (EtOHELZO). XIII (50 g.), 32 g. p-MeoC6H4NH2, 47 g. Et3M, and 400 cc. C6H6 yielded in the usual manner 15.2 g. N-(p-methoxyphenyl)-2-cyanocthylenimine (XIV), bo.05 126-7°, n200 1.5556. XIV (5.4 g.) hydrolyzed with 290 cc. N HCl yielded 1.3 g. XI and 2.1 g. p-MeoC6H4CHO, which gave 2.5 g. semicarbazone, m. 209-11°. Similarly were prepd. the N-Bu analog (XV) of XIV, 77%, bl2 85-7°, n20D 1.4430, N-neopentyl analog of XIV, 67%, bl4 83-4°, n20D 1.4428, N-(p-ClC6H4CH2) analog of XIV, leaflets, 66%, m. 69° (ligroine). XV (3.75 g.) treated in the usual manner with 2 g. KOH in 30 cc. EtOH
- 3.0 g. N-butylethylenimine-2-carboxamide, m. 61° (C6H6-petr. ether). MeCHBrCHBrCN treated in the usual manner with PhCH2NH2 yielded 35-68 product, C11H12N2, bo.2 112-15°. The IV-V mixts. were analyzed spectrophotometrically with the absorption max. of the Cu complex salts at 620 and 710 mu.

=> s metal

1616377 METAL

818332 METALS

L14 1961287 METAL

(METAL OR METALS)

=> s 19 and 114

L15 4 L9 AND L14

=> d ibib abs 1-4

L15 ANSWER 1 OF 4
ACCESSION NUMBER:
DOCUMENT NUMBER:
1171LE:
124:232231
Aritidine compounds, methods of preparation, and reactions thereof, as intermediates for thiamphenicol and analogs
Davis, Franklin A.; Zhou, Ping; Reddy, Gaddampally Venkat

PATENT ASSIGNEE(S):
DOCUMENT TYPE:
LANGUAGE:
PANILY ACC. NUM. COUNT:
PANELY ACC. NUM. COUNT:
1

LANGUAGE: FAMILY ACC. NUM. CO PATENT INFORMATION:

| | PAT | TENT | NO. | | | KIN | D | DATE | | | APPL | ICAT | ION I | NO. | | D | ATE | |
|------|-----|------|-----|------|-----|-----|-----|------|------|-----|------|------|-------|-----|-----|-----|------|-----|
| | WO | 9530 | 672 | | | Al | _ | 1995 | 1116 | , | WO 1 | 995- | US 49 | 11 | | 1 | 9950 | 501 |
| | | W: | AM, | AT, | ΑU, | BB, | BG, | BR, | BY, | CA, | CH, | CN, | CZ, | DE, | DK, | EE, | ES, | FI, |
| | | | GB, | GE, | HU, | IS, | JP, | KE, | KG, | KP, | KR, | KZ, | LK, | LR, | LT, | LU, | LV, | MD, |
| | | | MG, | MN, | MW, | MX, | NO, | NZ, | PL, | PT, | RO, | RU, | SD, | SE, | SG, | SI, | SK, | TJ, |
| | | | TT, | UA | | | | | | | | | | | | | | |
| | | RW: | KE, | MW, | SD, | SZ, | UG, | AT, | BΕ, | CH, | DE, | DK, | ES, | FR, | GB, | GR, | IE, | IT, |
| | | | LU, | MC, | NL, | PT, | SE, | BF, | BJ, | CF, | CG, | CI, | CM, | GΑ, | GN, | ML, | MR, | NE, |
| | | | SN, | TD, | TG | | | | | | | | | | | | | |
| | US | 5789 | 599 | | | Α | | 1998 | 0804 | | US 1 | 994- | 2390 | 97 | | 1 | 9940 | 506 |
| | ΑU | 9524 | 260 | | | A1 | | 1995 | 1129 | | AU 1 | 995- | 2426 | 0 | | 1 | 9950 | 501 |
| PRIC | RIT | APP | LN. | INFO | . : | | | | | | US 1 | 994- | 2390 | 97 | | A 1 | 9940 | 506 |

OTHER SOURCE(S):

CASREACT 124:232231; MARPAT 124:232231

WO 1995-US4911

Novel N-sulfinyl-2-carboxy- and N-hydrogen-2-(hydroxymethyl)aziridine compds. I and II and their stereoisomers are provided [wherein R1-R5 = H, hydrocarbyl radicals containing 1-40 C atoms, 0-40 halo atoms, and 0-10 heteroatoms (B, N, O, S, P, Si, Se); both R3 and R4 * H; sulfinyl molety may be racemic or optically enriched). The asym. synthesis of N-sulfinylaziridines is readily accomplished in high disastereomeric

purity y and good yield by a Darzens-type reaction of a metal enclate of L15 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN (Continued) an α-halo ester with an enantiopure sulfinimine. Ring-opening of the aziridines affords α-amino acids and otherwise difficult to prep. syn-β-ηλυφίσχν-α-amino acids, both key structural units found in many bioactive materials. The N-sulfinyl radical may be selectively removed from the novel aziridine compds. by treatment with acid or base. Alternatively, the N-sulfinyl radical may be oxidized to provide the corresponding N-sulfonyl-aziridine, or reduced to form the corresponding lH-2-(hydroxymethyl)aziridine, either of which may subsequently be ring-opened to provide precursors to bloactive compds. For example, BrCH2CO2Me was lithiated with (Me3Si)2NLi in THF, and reacted

ticed
with (S)-(+)-N-benzylidene-p-toluenesulfonimine to give 65t (25,38)-I [RI
= Me, R2 = R4 = H, R3 = Ph, R5 = p-MeC6H4] (III), plus 6t (25,3R)-isomer
byproduct. The analog of III with R3 = p-(MeS)C6H4 was similarly prepd.,
then reduced to the corresponding hydroxymethyl compd. II, hydrolyzed to
an aminopropanediol, N-dichloroacetylated, and oxidized with
m-ClC6H4C(0)OOH, to give the antiblotic thiamphenicol.

L15 ANSWER 2 OF 4
ACCESSION NUMBER:
DOCUMENT NUMBER:
1986-626320 HCAPLUS
105:226320
Aziridine-2-carboxylic acid salts
INVENTOR(5):
Sadao, Kitagawa; Takashi, Yokoi; Mitsumasa, Kaitoh
Research Assoc. for Utilization of Light Oil, Japan
EUR. Pat. Appl., 39 pp.
CODENT TYPE:
DOCUMENT TYPE:
PATENT ASSIGNEE (S):
FOR 18 PXXDW

FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | | DATE |
|------------------------|------|----------|-----------------|----|----------|
| | | | | | |
| EP 191462 | A1 | 19860820 | EP 1986-101728 | | 19860212 |
| R: DE, FR, GB, | IT | | | | |
| JP 61186361 | A2 | 19860820 | JP 1985-25775 | | 19850213 |
| JP 62019567 | A2 | 19870128 | JP 1985-159498 | | 19850719 |
| US 4935527 | А | 19900619 | US 1988-289440 | | 19881223 |
| PRIORITY APPLN. INFO.: | | | JP 1985-25775 | A | 19850213 |
| | | | JP 1985-159498 | A | 19850719 |
| | | | US 1986-828549 | В1 | 19860212 |

GI

The title compds. I (R1-R4 = H, C1-10 hydrocarbyl, M = NH4, metal ion; n = valence of M), useful as neoplasm inhibitors, are prepared by

reaction of a 2,3-dihalopropionic acid or an α -haloacrylic acid derivative with aqueous NH3 in presence of an alkaline earth metal hydroxide. C1CH2CHC1C02Me, aqueous NH3, and Ca(OH)2 were charged into an autoclave at 90° for 5 h to give I (R1-R4 = H; N = Ca; n = 2) (95.3% yield).

L15 ANSWER 3 OF 4
ACCESSION NUMBER:
DOCUMENT NUMBER:
105:173039
TITLE:
INVENTOR(S):
PATENT ASSIGNEE(S):

Kitagawa, Sadao; Vokoi, Takasi
Keishitau Ruibun Shinyoto Kail

p-Chloroalanine Kitagawa, Sadao; Yokoi, Takashi; Minafuji, Mitsumasa Keishitau Ruibun Shinyoto Kaihatsu Gijutsu Kenkyu Kumiai, Japan Jpn. Kokai Tokkyo Koho, 4 pp. CODEN: JKXXAF

SOURCE:

DOCUMENT TYPE: Patent LANGUAGE:

Japanese 1

FAMILY ACC. NUM. COUNT: PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE JP 1984-108195 JP 1984-108195 JP 60252453 PRIORITY APPLN. INFO.: A2 19851213

OTHER SOURCE(S): CASREACT 105:173039

The title compound (I), useful as an intermediate cysteine, was prepared

heating an aziridine derivative I (R = CO2R1, cyano, CONH2; Rl = H, Cl-5 alkyl, alkali or alkaline earth metal, NH4) with a Cl-containing inorg. salt in an aqueous solvent at pH 0.01-6.0. Thus, heating II (R = CO2Na)

water in the presence of p-Mec6H4SO3H and NaCl at 100° for 3 h gave 89.5% I in 100% conversion.

L15 ANSWER 4 OF 4
ACCESSION NUMBER:
DOCUMENT NUMBER:
PATENT ASSIGNEE(S):
DOCUMENT TYPE:
LANGUAGE:
PAMILY ACC. NUM. COUNT:
PATENT INFORMATION:

L1983:125854 HCAPLUS
1983:125854 HCAPLUS
1983:125854 HCAPLUS
AZIZIÓINE-2-carboxylic acid salts
Mitaul Toatsu Chemicals, Inc., Japan
Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
Patent
Japanese
1
PAMILY ACC. NUM. COUNT:
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| | | | | |
| JP 57146751 | A2 | 19820910 | JP 1981-32501 | 19810309 |
| JP 60039357 | B4 | 19850905 | | |
| PRIORITY APPLN. INFO.: | | | JP 1981-32501 | 19810309 |

Aziridine-2-carboxylic acid (I) salts were prepared by treating β -haloslanines, their esters, or mineral acid salts with alkali (or alkaline earth) metal hydroxides or aqueous NH3 in aqueous media. Thus,

g NaOH in H2O was added to 24 g β -chloroalanine-HCl in H2O at room temperature to give, after 24 h, 92.6% I Na salt. Similarly prepared were I K salt and I Ca salt.

Manine

=> s 16/prep

364 L6

3402624 PREP/RL

L16

209 L6/PREP

(L6 (L) PREP/RL)

=> s 13/rct

2444 L3

2802094 RCT/RL

L17

397 L3/RCT

(L3 (L) RCT/RL)

=> s 116 and 117

L18 6 L16 AND L17

=> d ibib abs 1-6

L18 ANSWER 1 OF 6
ACCESSION NUMBER:
DOCUMENT NUMBER:
135:195786
Frocessee for preparing optically active amino acid derivatives
Sugawara, Massanobu; Fujii, Akio; Okuro, Kazumi; Sake, Yasuhiro; Nagashima, Nobuo; Inoue, Kenji; Takeda, Toshihiro; Kinoshita, Koichi; Moroshima, Tadashi; Fuse, Yoshihide; Ueda, Yasuyoshi
Kaneka Corporation, Japan; et al.
FOT Int. Appl., 74 pp.
CODE:
DOCUMENT TYPE:
LANGUAGE:
FAMILY ACC. NUM. COUNT:
PATENT INCORPRATION:
1 Japanese
1

LANGUAGE: FAMILY ACC. NUM. COUNT: PATENT INFORMATION:

| | PA? | FENT | NO. | | | | | DATE | | | | | | | | | ATE | |
|-----|------|---------------|------|------|-----|-----|-----|------|------|-----|------|------|------|-----|-----|------|------|-----|
| | WO | 2001 | 0607 | 95 | | | | | | | | | | | | | | |
| | | W: | ΑE, | AG, | AL, | AM, | AT, | AU, | AZ, | BA, | BB, | BG, | BR, | BY, | BZ, | CA, | CH, | CN, |
| | | | CR, | cυ, | CZ, | DE, | DK, | DM, | DZ, | EE, | ES, | FI, | GB, | GD, | GE, | GH, | GM, | HR, |
| | | | HU, | ID, | IL, | IN, | IS, | JP, | KE, | KG, | KP, | KR, | KZ, | LC, | LK, | LR, | LS, | LT, |
| | | | | | | | | | | | | | | | | | RO, | |
| | | | SD. | SE. | SG. | SI. | SK. | SL. | TJ. | TM. | TR. | TT. | TZ. | UA. | UG. | US. | UZ. | VN. |
| | | | | | | | | | | | | RU, | | | | | | |
| | | RW: | | | | | | | | | | | | | | BE, | CH. | CY, |
| | | | DE. | DK, | ES. | FI. | FR. | GB. | GR, | IE. | IT. | LU, | MC. | NL, | PT. | SE, | TR. | BF. |
| | | | | | | | | | | | | MR, | | | | | | |
| | CA | 2369 | 678 | | | ΑÁ | | 2001 | 0823 | ٠, | CA 2 | 001- | 2369 | 678 | | - 2 | 0010 | 216 |
| | AU | 2369 2001 | 0323 | 27 | | A5 | | 2001 | 0827 | | AU 2 | 001- | 3232 | 7 | | - 2 | 0010 | 216 |
| | EP | 1179 | 530 | | | A1 | | 2002 | 0213 | | EP 2 | 001- | 9045 | 17 | | - 2 | 0010 | 216 |
| | | R: | AT. | BE, | CH, | DE, | DK, | ES. | FR, | GB, | GR, | IT, | LI. | LU, | NL, | SE, | MC, | PT, |
| | | | IE. | SI. | LT. | LV. | FI. | RO | | | | | | | | | | |
| | NO | 2001 2003 | 0050 | 42 | | A | | 2001 | 1214 | | NO 2 | 001- | 5042 | | | - 2 | 0011 | 016 |
| | US | 2003 | 0328 | 14 | | A1 | | 2003 | 0213 | | US 2 | 002- | 9263 | 46 | | - 2 | 0020 | 205 |
| | 119 | 6720 | 449 | | | R2 | | 2004 | 0413 | | | | | | | | | |
| | US | 2005 | 1435 | 86 | | A1 | | 2005 | 0630 | - | US 2 | 003- | 7164 | 30 | | 2 | 0031 | 120 |
| RIC | DRIT | 2005 Y APP | LN. | INFO | . : | | | | | | JP 2 | 000- | 3941 | 5 | | A 2 | 0000 | 217 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | JP 2 | 000- | 3343 | 91 | | A 2 | 0001 | 101 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 1 | NO 2 | 001- | JP11 | 32 | | w 2 | 0010 | 216 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | US 2 | 002- | 9263 | 46 | | A3 2 | 0020 | 205 |
| | | | | | | | | | | | | | | | | | | |

OTHER SOURCE(S): CASREACT 135:195786; MARPAT 135:195786
AB An optically active amino acid derivative is prepared either by subjecting an optically active 3-haloslanine derivative XCH2C*H(NH2)CO2R1 [X is

optically active 3-naioaianine Golffell and asym. carbon atom] to halogen; Rl
is hydrogen or the like; the asterisk represents an asym. carbon atom] to N-protection followed by cyclization or cyclization followed by N-protection to prepare an optically active aziridinecarboxylic acid derivative
whose imino group is protected with 2-nitrobenzenesulfonyl or

L18 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2005 ACS ON STN ACCESSION NUMBER: 1990:459808 HCAPLUS DOCUMENT NUMBER: 113:59808

TITLE: 2-(4-Amino-4-carboxybutyl)aziridine-2-carboxylic acid.

L18 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN (Continued)
4-nitrobenzenesulfonyl and treating this deriv. with an organometallic reagent or by subjecting an optically active 3-haloslanine deriv. to N-protection to obtain an optically active 3-haloslanine deriv. to CAPCO-10 (NPP) CO2R2 (X. asterisk = as given above; R2 is hydrogen or the like; P1 is 2-nitrobenzenesulfonyl or 4-nitrobenzenesulfonyl) whose amino group is protected with 2-nitrobenzenesulfonyl or 4-nitrobenzenesulfonyl and treating this deriv. with an organometalic reagent. According to such processes, natural and nonnatural optically active amino acids can be

prepd. from inexpensive raw materials through simple and easy operation.
REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR

RECORD. ALL CITATIONS AVAILABLE IN THE RE

A potent irreversible inhibitor of diaminopimelic acid

AUTHOR (S):

epimerase. Spontaneous formation from a-(halomethyl)diaminopimelic acids Gerhart, Fritz; Higgins, William; Tardif, Chantal; Ducep, Jean Bernard Strasbourg Cent., Merrell Dow Res. Inst., Strasbourg, 67084 P. CORPORATE SOURCE:

SOURCE:

Straspourg cent., Nature 67084, Fr.
Journal of Medicinal Chemistry (1990), 33(8), 2157-62
CODEN: JMCMAR; ISSN: 0022-2623 DOCUMENT TYPE: Journal

LANGUAGE:

English CASREACT 113:59808 OTHER SOURCE (S):

mode of action of an α -halomethyl amino acid with a nonpyridoxal enzyme is investigated. Synthesis and characterization of I and II, kinetics of spontaneous formation of I from II, and kinetics of enzyme inhibition by both I and II are reported.

L18 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2005 ACS ON STN ACCESSION NUMBER: 1994:580151 HCAPLUS DOCUMENT NUMBER: 121:180151

The synthesis and stability of aziridino-glutamate, TITLE:

irreversible inhibitor of glutamate racemase Tanner, Martin B.; Miao, Shichang Dep. Chem., Univ. British Columbia, Vancouver, BC, AUTHOR (S):

CORPORATE SOURCE: V6T

121, Can. Tetrahedron Letters (1994), 35(24), 4073-6 CODEN: TELEAY; ISSN: 0040-4039 Journal English CASREACT 121:180151 SOURCE:

DOCUMENT TYPE:

OTHER SOURCE(S):

CO2H HO₂C HO2C

H₂N

Aziridino-glutamate (‡)-I was synthesized by heating α -fluoromethylglutamate II in base. In neutral solution, (‡)-I was shown to cyclize to the γ -lactone III with a half life of 4 min. Aziridino-glutamate was shown to irreversibly inactive glutamate racemase by alkylating an active site cysteine residue. Electrospray mass spectrometry was used to establish that a covalent bond had formed and that this bond protects one of the enzyme's two cysteine residues from reacting with iodoacetate under denaturing conditions.

CH2F II

HO2C

12/27/2005

L18 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1986:526320 HCAPLUS
DOCUMENT NUMBER: 105:226320 HCAPLUS
TITLE: 105:226320 HCAPLUS
Aziridine-2-carboxylic acid salts
INVENTOR(S): Sadao, Kitagawa: Takashi, Yokoi; Mitsumasa, Kaitoh
Research Assoc. for Utilization of Light Oil, Japan
EUR. Pat. Appl., 39 pp.
COORENT TYPE: Patent
LANGIAGE: PRINTED

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|--------------------|----------|
| | | | | |
| EP 191462 | Al | 19860820 | EP 1986-101728 | 19860212 |
| R: DE, FR, GB, | IT | | | |
| JP 61186361 | A2 | 19860820 | JP 1985-25775 | 19850213 |
| JP 62019567 | A2 | 19870128 | JP 1985-159498 | 19850719 |
| US 4935527 | A | 19900619 | US 1988-289440 | 19881223 |
| PRIORITY APPLN. INFO.: | | | JP 1985-25775 A | 19850213 |
| | | | JP 1985-159498 A | 19850719 |
| | | | 119 1086-928540 91 | 10060212 |

GI

The title compds. I (R1-R4 = H, C1-10 hydrocarbyl, M = NH4, metal ion; n

valence of M), useful as neoplasm inhibitors, are prepared by the

valence of M), useful as neoplasm inhibitors, are prepared by the reaction of a 2,3-dihalopropionic acid or an α -haloacrylic acid derivative with aqueous NN3 in presence of an alkaline earth metal hydroxide. ClCH2CHClCO2Me, aqueous NH3, and Ca(OH)2 were charged into an autoclave at 90° for 5 h to give I (R1-R4 = H; M = Ca; n = 2) (95.3% yield).

L18 ANSWER 6 OF 6
ACCESSION NUMBER:
DOCUMENT NUMBER:
1978:436591 HCAPLUS
99:36591
5-Carboxamido-4-amino-3-isoxazolidone, an asparagine
analog
AUTHOR(S):
CORPORATE SOURCE:
SOURCE:
DOCUMENT TYPE:
LANGUAGE:
CI

HCAPLUS COPPRIGHT 2005 ACS on STN
1978:436591 HCAPLUS
99:36591
5-Carboxamido-4-amino-3-isoxazolidone, an asparagine
analog
Stammer, Charles H.; Sato, Masayuki
Dep. Chem., Univ. Georgia, Athens, GA, USA
Journal of Medicinal Chemistry (1978), 21(7), 709-12
CODEN: JNCMAR; ISSN: 0022-2623
JOURNAL STSN: 0022-2623
JOURNAL STSN: 0022-2623

DOCUMENT TYPE: LANGUAGE: GI

The synthesis of the title compound I [66620-06-2] from trans-diethyl aziridine-2,3-dicarboxylate [66619-94-1] via diethyl β -chorosapartate hydrochloride [66619-95-2] is described. Neither I nor the aziridine hydroxamate intermediate II [66620-05-1] had antitumor activity in mice against L1210 and P-388 tumors. I was inactive as an inhibitor of asparagine synthetase from Novikoff hepatoma and did not inhibit the growth of bacteria or fungi.

L18 ANSWER 5 OF 6
ACCESSION NUMBER: 1983:125854 HCAPLUS
COCUMENT NUMBER: 99:125854 HCAPLUS
TITLE: Aritidine-2-carboxylic acid salts
Mitsui Toatsu Chemicals, Inc., Japan
Jpn. Kokai Tokkyo Koho, 4 pp.
COCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

DOCUMENT TYPE: LANGUAGE: FAMILY ACC. NUM. COUNT: PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------|------|----------|-----------------|----------|
| JP 57146751 | A2 | 19820910 | JP 1981-32501 | 19810309 |
| JP 60039357 PRIORITY APPLN. INFO.: | B4 | 19850905 | JP 1981-32501 | 19810309 |

Aziridine-2-carboxylic acid (I) salts were prepared by treating β -haloalanines, their esters, or mineral acid salts with alkali (or alkaline earth) metal hydroxides or aqueous NH3 in aqueous media. Thus, NaOH in H2O was added to 24 g β -chloroalanine-HCl in H2O at room temperature to give, after 24 h, 92.6% I Na salt. Similarly prepared were I K salt and

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---Logging off of STN---

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Executing the logoff script...

=> LOG Y

| COST IN U.S. DOLLARS | SINCE FILE | TOTAL |
|--|------------|---------|
| | ENTRY | SESSION |
| FULL ESTIMATED COST | 66.70 | 389.57 |
| | | |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE | TOTAL |
| · - | ENTRY | SESSION |
| CA SUBSCRIBER PRICE | -10.95 | -10.95 |
| | | |

STN INTERNATIONAL LOGOFF AT 12:36:29 ON 27 DEC 2005